

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicants: D. Foote et al. Attorney Docket No.: THAS121883
Application No.: 10/692,326 Art Unit: 3673 / Confirmation No.: 8551
Filed: October 22, 2003 Examiner: V.A. Patel
Title: SEAL ASSEMBLY FOR RECIPROCATING SHAFT

APPELLANTS' REPLY BRIEF

Seattle, Washington

November 27, 2007

TO THE COMMISSIONER FOR PATENTS:

This Reply Brief is filed in reply to the Examiner's Answer dated September 28, 2007, to the Appellants' Appeal Brief filed August 6, 2007.

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I. STATUS OF CLAIMS

Claims 1, 3, and 4 have been finally rejected, and it is these rejections that are being appealed.

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II. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1 and 4 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,877,217 (Peil). Claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by US Patent No. 1,709,949 (Rasmussen). Claim 3 was rejected under 35 U.S.C. § 103 as being unpatentable over Peil in view of U.S. Patent No. 3,987,846 (Thompson). In view of these rejections, the issues presented for review on appeal are as follows:

Issue 1: Whether Peil teaches the seal assembly claimed in Claim 1.

Issue 2: Whether Rasmussen teaches the seal assembly claimed in Claim 1.

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III. ARGUMENT

In order to be anticipated, "every element of the claim must be shown in the reference, including all limitations." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920-21 (Fed. Cir. 1989). "[T]he reference must describe the claimed invention sufficiently to place it in the possession of a person of ordinary skill in the field." See *In re Paulsen*, 30 F.3d 1475 (Fed. Cir. 1997). It is appellants' position that neither Peil nor Rasmussen, as cited by the Examiner, anticipates Claim 1 of the present application. Because Claims 3 and 4 depend upon Claim 1 and incorporate the patentable elements of Claim 1, Claim 3 is not anticipated by Peil, and Claim 4 is patentable over Peil in view of Thompson.

Appellants reaffirm their prior arguments, and take the opportunity to reply to the Examiner's Answer.

Peil Does Not Teach the Seal Assembly Claimed in Claim 1

In the Examiner's Answer, the Examiner misquoted Claim 1. The Examiner stated that "the shaft is adapted to move reciprocally within the body between an extended position and a retracted position within the body," giving the impression that both the extended position and the retracted position are within the body. However, Claim 1 states that the extended position extends from the body. Peil does not teach this. The shaft 26 taught by Peil is always contained within the body of the blowout preventer, and therefore does not extend from the body. It follows that the first seal area is also not extended from the body, as claimed in claim 1.

The Examiner states that seals 30 and 32 are redundant as they both seal. However, each seal actively seals in a different direction, and against a different fluid. Claim 1 structurally describes the first circumferential seal as "performing a dedicated sealing function" and structurally describes the second circumferential seal as a backup, redundant seal that is

"dedicated to performing the same sealing function as the first circumferential seal." By contrast, in Peil, both seals 30 and 32 are structurally configured to perform different active sealing functions against different fluids in different directions.

The difference between Peil and Claim 1 is further emphasized by the following structural element of Claim 1: "the second circumferential seal being positioned to prevent fluids from migrating along the shaft from the first region of the body and to maintain the seal at the first end of the shaft in the event of a failure of the first circumferential seal." The blowout preventer taught by Peil conducts well fluids through a lateral hole 26a in shaft 26 to an axial bore 26b. When seal 30 fails, well fluids flow out of a leak indicator port 34 instead of through the axial bore 26b. This requires the blowout preventer to be serviced, as the fluids are no longer flowing as they should. Since the operation of the blowout preventer changes in the event of a failure of seal 30, the second circumferential seal 32 does not structurally act as a redundant, backup seal in the event of a failure of the first circumferential seal, nor is it dedicated to this purpose. The seal assembly as claimed in Claim 1 makes it clear that the redundant, dedicated, backup seal allows operation to continue without interruption.

Rasmussen Does Not Teach the Seal Assembly Claimed in Claim 1

In the Examiner's Answer, the Examiner stated that the drill casing could reciprocate. However, this statement is unrealistic and would not be understood or accepted by persons having ordinary skill in the art. In practice, drill casings are not reciprocated in a wellbore. It is either inserted or removed. This is recognized by Rasmussen, where, at page 1, lines 16 – 20, Rasmussen states that an object of the invention is to "provide a blow-out preventer which will retain the gas in a well during the insertion of a drill stem or a string of casing into or drawing these from the well" and at page 4, lines 71 – 73, which states "the blow-out preventer is particularly adapted for use in running casing into the well." Furthermore, the ghost lines

referred to by the Examiner do not show reciprocation but merely show the casing being lowered through the packers, which are inflated and deflated by fluid pressure. The arm 144 is pulled down by the joint of the casing as it is lowered to activate the retraction and expansion of the necessary blowout preventers. At a certain point, the arm is pulled away from the casing joint and returns to its initial position to await the next casing joint.

The operation of Rasmussen's blowout preventer is further described at page 4, line 116, through page 5, line 69. Persons having ordinary skill would recognize from this section that the operation of Rasmussen's blow-out preventer is unrelated to what is claimed by appellants. This section discusses how the packers are expanded and contracted to allow the coupling of the casing to pass downhole without permitting any gas from the well to escape. Nowhere is it taught that the casing is raised and lowered in a reciprocating fashion such that a first seal travel area and a second seal travel area are axially spaced separate and distinct areas on the casing. Each packer contacts the entire length of the casing as it is lowered. Furthermore, the packers are not redundant backup seals, but rather, each packer seals against the casing in turn to prevent gas from escaping as the casing joint is lowered downhole.

IV. CONCLUSION

In light of the above arguments and the arguments presented in appellants' main Appeal Brief, appellants affirm that Peil and Rasmussen fail to teach or suggest each and every element of Claim 1. Accordingly, appellants submit that the Office Action has failed to present a *prima facie* case of anticipation that supports a rejection of Claim 1. The Board should direct that the 35 U.S.C. § 102(b) rejection of Claim 1 be withdrawn and the claim allowed. As Claims 3 and 4 depend upon Claim 1, these claims should also be allowed.

Respectfully submitted,

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